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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/995,226	11/27/2001	Patrick P. Hicks	2070.004500/P6761	9652

7590 12/22/2003
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EXAMINER

ABRAMS, NEIL

ART UNIT	PAPER NUMBER
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2839

DATE MAILED: 12/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s) <i>W</i>	
	09/995,226	HICKS ETAL	
	Examiner	Art Unit	
	Neil Abrams	2839	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 October 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-6,8,10,11,18-22 and 26-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-6,8,10,11, 18-22,26-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s) _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

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Spec. Page 13, lines 16-20 discussion is unclear and together with fig. 4 lacks detail of structure of the joinder module 430 or of how it is used. Also on line 19 "430" is incorrect and in fig. 4 just what 430 is attached to is unclear.

Claims 26-28 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

See above discussion.

The spec and fig. 4 lack proper enablement with regard to feature 430. Is part 430 attached to module 425?

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the claim 26 ("couples multiple connectors in series") must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim language implies that the module 430 "is being used" for such coupling, however such aspect is not shown in figs.

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Claims 1, 2, 4-6, 8, 10, 11 and 18-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Amberg in view of Broeksteeg, Provencher, HDM and Weber.

See last office action.

For claim 10, obvious to include Broeksteeg, fig. 13, conductive layer 180 with compliant pin 192 in Amberg, etc combination. This would help provide shielding between contacts.

Claims 26-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Broeksteeg in view of Chen "354, Weber, HDM, Masuda, Dent and Siwinsky.

See last office action. For amended claims 31, Broeksteeg, fig. 13 applied as above.

For amended claim 26, the Provencher stiffener 110 or that of Broeksteeg at 102 are readable as "joinder modules" for joining the connectors in series. The part like 102 of Broeksteeg is both support member and joinder module. Also obvious to form the top support with fixing means like that of Provencher at 124. Joinder of two connectors in series would be adequate for claim 26.

Claims 18-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references as applied to claims 1, 2, 4-6, above, and further in view of Masuda and Dent

Applicant's arguments filed with the amendment have been fully considered but they are not persuasive.

The Amberg teachings are to unitary connectors on each circuit board. The suggestion to use wafers and modules is found in Weber, Provencher and Broeksteeg.

These show the advantages of wafer/module type connectors mounted to circuit boards whether for coplanar or perpendicular arrangements. As one example Broeksteeg, fig. 1 is seen to clearly be analogous to Amberg connector 18 that is to be fitted into connector 16. If right angle connectors are to be used, the contacts would usually have to be bent through 90 degrees, see Broeksteeg fig 5. It would have been obvious to use a wafer/module like that of Broeksteeg on both Amberg pcbs. While HDM, etc are for perpendicularly arranged pcbs the change to coplanar circuit boards would be an obvious design variations requiring only that both connector sets include terminals bent like those of Broeksteeg, fig 5. Argument, page 9, lines 9-15 are unclear. The rejection does not require bending the specific contacts used in Weber or HDM but only that "both" connector sets be formed with 90 degree contacts like those of Weber connector set G'. Amberg does not show contacts but it seems clear that in practice, his contacts would have to be bend to form 90 degree arrangement like that of Broeksteeg, fig. 8. In such case the rejection only involves use of wafers and modules in place of the Amberg unitary connectors. This would enable connectors to be tailored for specific uses.

As to argument, page 9, lines 16-23, Broeksteeg, fig 13 shows a conductive layer 180 with 9 complaint pin 192 which is for securement in a pcb hole 202. The page 10 arguments in this regard are not understood. The pins of Broeksteeg at 192, 78 and Provencher at 152 all appear to be compliant and for use in securement to pcb holes. As to claim 26 see rejections above.

As to use of Masuda and Dent, it is asserted that analogousness is adequate since these patents are used only to teach use of connectors to deliver different voltages. Even without these

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teachings
~~reference~~, it seems obvious to use *main* reference connectors to deliver high power voltage and lower voltage for data. No new or unexpected result is derived from this change.

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Basic~~ally~~ the claim 1 invention would be equivalent to use of Web system, fig. 1A, but with both pcbs being coplanar and with modules B, C, B' C' read as wafers and with other modules read as power and guide modules.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication should be directed to N Abrams at telephone number (703) 308-1729.

N. Abrams
NEIL ABRAMS
EXAMINER
ART UNIT 322